

ABSTRACT

The invention relates to the cDNA and deduced amino acid sequence of the Coactivator Associated arginine (R) Methyltransferase protein, CARM1. A method is described for the use CARM1 to regulate gene expression *in vivo*. CARM1 has also been used to methylate arginine residues of histones, synthetic peptides, and other proteins. A method to use CARM1 to screen for drugs that inhibit its methyltransferase activity is also described, as is a method to screen for drugs that modulate CARM1's interactions with other proteins.